

1N821UR-1, 1N823UR-1, 1N825UR-1, 1N827UR-1 AND 1N829UR-1 AVAILABLE IN JAN, JANTX, JANTXV AND JANS PER MIL-PRF-19500/159

- TEMPERATURE COMPENSATED ZENER DIODES
- LEADLESS PACKAGE FOR SURFACE MOUNT
- 6.2 AND 6.55 VOLT NOMINAL ZENER VOLTAGES
- METALLURGICALLY BONDED, DOUBLE PLUG CONSTRUCTION

1N821UR-1 thru 1N829UR-1  
and  
CDLL821 thru CDLL829A

## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C  
DC Power Dissipation: 500mW @ +50°C  
Power Derating: 4 mW / °C above +50°C

## REVERSE LEAKAGE CURRENT

$I_R = 2 \mu A$  @ 25°C &  $V_R = 3 V_{dc}$

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

CDI TYPE NUMBER	ZENER VOLTAGE $V_Z$ @ $I_{ZT}$	ZENER TEST CURRENT $I_{ZT}$	MAXIMUM ZENER IMPEDANCE (Note 1) $Z_{ZT}$	VOLTAGE TEMPERATURE STABILITY $\Delta V_{ZT}$ -55° to +100° (Note 2)	EFFECTIVE TEMPERATURE COEFFICIENT
	VOLTS	mA	OHMS	mV	% / °C
CDLL821	5.9 - 6.5	7.5	15	96	0.01
CDLL821A	5.9 - 6.5	7.5	10	96	0.01
CDLL822 †	5.9 - 6.5	7.5	15	96	0.01
CDLL823	5.9 - 6.5	7.5	15	48	0.005
CDLL823A	5.9 - 6.5	7.5	10	48	0.005
CDLL824 †	5.9 - 6.5	7.5	15	48	0.005
CDLL825	5.9 - 6.5	7.5	15	19	0.002
CDLL825A	5.9 - 6.5	7.5	10	19	0.002
CDLL826	6.2 - 6.9	7.5	15	20	0.002
CDLL827	5.9 - 6.5	7.5	15	9	0.001
CDLL827A	5.9 - 6.5	7.5	10	9	0.001
CDLL828	6.2 - 6.9	7.5	15	10	0.001
CDLL829	5.9 - 6.5	7.5	15	5	0.0005
CDLL829A	5.9 - 6.5	7.5	10	5	0.0005

† Double Anode: Electrical Specifications Apply Under Both Bias Polarities.

**NOTE 1** Zener impedance is derived by superimposing on  $I_{ZT}$  A 60Hz rms a.c. current equal to 10% of  $I_{ZT}$ .

**NOTE 2** The maximum allowable change observed over the entire temperature range i.e., the diode voltage will not exceed the specified mV at any discrete temperature between the established limits, per JEDEC standard No.5.

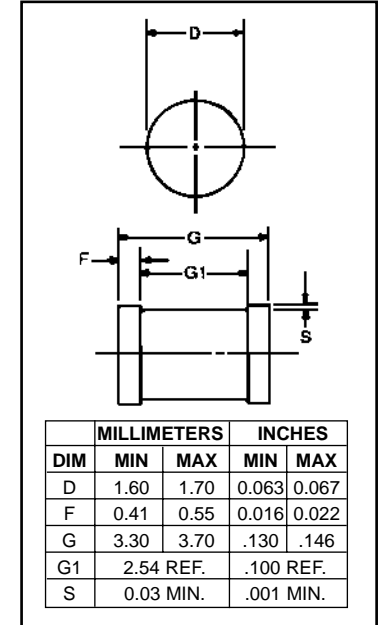


FIGURE 1

## DESIGN DATA

**CASE:** DO-213AA, Hermetically sealed glass case. (MELF, SOD-80, LL34)

**LEAD FINISH:** Tin / Lead

**POLARITY:** Diode to be operated with the banded (cathode) end positive.

**MOUNTING POSITION:** Any.

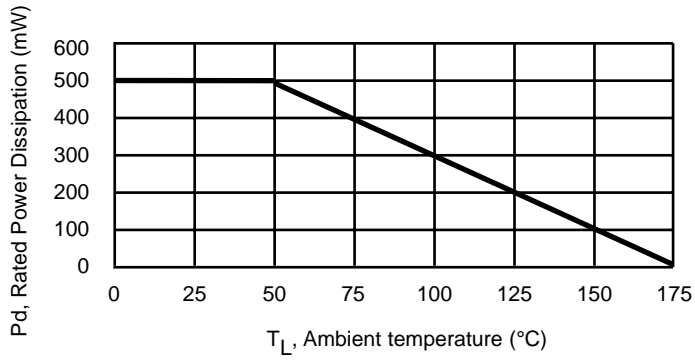
**MOUNTING SURFACE SELECTION:**  
The Axial Coefficient of Expansion (COE) Of this Device is Approximately +6PPM/°C. The COE of the Mounting Surface System Should Be Selected To Provide A Suitable Match With This Device.



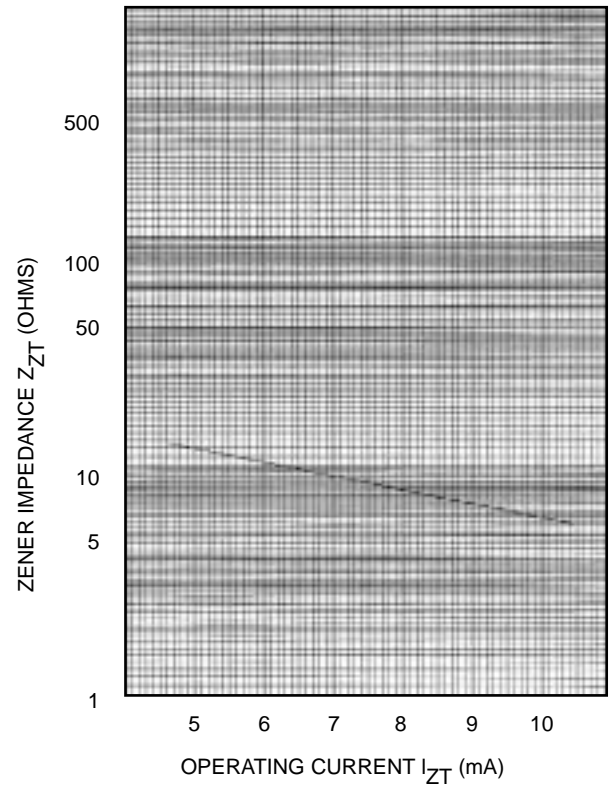
**COMPENSATED DEVICES INCORPORATED**

22 COREY STREET, MELROSE, MASSACHUSETTS 02176  
PHONE (781) 665-1071 FAX (781) 665-7379  
WEBSITE: <http://www.cdi-diodes.com> E-mail: [mail@cdi-diodes.com](mailto:mail@cdi-diodes.com)

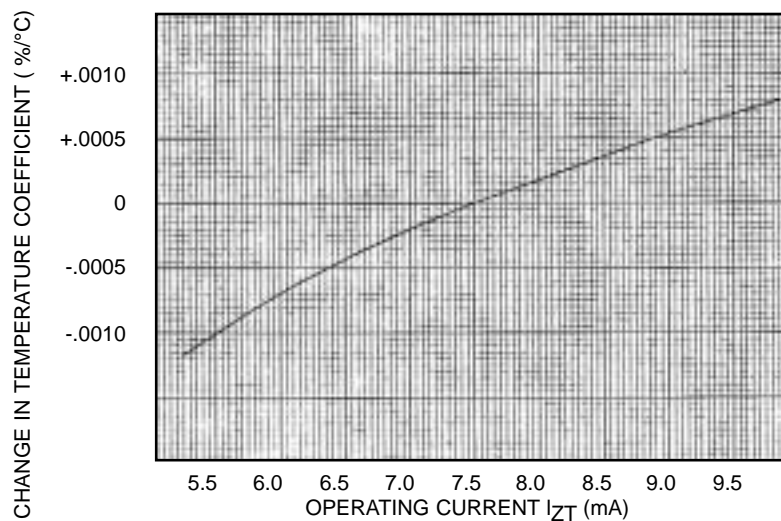
# CDLL821 thru CDLL829A



**FIGURE 2**  
**POWER DERATING CURVE**



**FIGURE 3**  
**ZENER IMPEDANCE**  
**VS.**  
**OPERATING CURRENT**



**FIGURE 4**  
**TYPICAL CHANGE OF TEMPERATURE**  
**COEFFICIENT WITH CHANGE IN**  
**OPERATING CURRENT**